Reserve

United States
Department of
Agriculture

**Soil
Conservation
Service**

Reno
Nevada

Nevada
Water Supply Outlook

March 1, 1988

Foreword

How Forecasts Are Made

Most of the annual streamflow in the Western United States originates as snowfall. This snowfall accumulates high in the mountains during winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Predictions are based on careful measurements of snow water equivalent at selected index points. Precipitation, temperature, soil moisture and antecedent streamflow data are viewed in conjunction with snowpack data to prepare runoff forecasts. This report presents a comprehensive picture of water supply outlook conditions for areas dependent upon surface runoff. It includes selected streamflow forecasts, summarized snowpack and precipitation data, reservoir storage data and narratives describing current conditions.

Streamflow forecasts are cooperatively generated by Soil Conservation Service and National Weather Service hydrologists. Forecasts become more accurate as more data affecting runoff becomes known. For this reason, forecasts are issued that reflect three future precipitation conditions — Below Normal, Average, and Above Normal. These forecasts are terms reasonable minimum, most probable, and reasonable maximum. Actual streamflow can be expected to fall between the lower and upper forecast values eight out of ten years.

Snowpack data are obtained by using a combination of manual and automated measurement methods. Manual readings of snow depth and water equivalent are taken at locations called snow courses on a monthly or semi-monthly schedule during the winter. In addition, snow water equivalent, precipitation, temperature, and other parameters are monitored on a daily basis and transmitted via radio telemetry to central data collection facilities. Both monthly and daily data are used to project snowmelt runoff.

For More Information

Copies of Monthly Water Supply Outlook Reports and other reports may be obtained from the states listed below. An annual snow survey data summary is published by the Soil Conservation Service for each of the western states. Historical snow survey data may be obtained at those same offices.

STATE	ADDRESS
Alaska	201 East 9th Ave., Suite 300, Anchorage, AK 99501-3687
Arizona	201 East Indianola, Suite 200, Phoenix, AZ 85012
Colorado	2490 West 26th Ave., Denver, CO 80211
New Mexico	517 Gold Ave. S.W., Room 3301, Albuquerque, NM 87102-3157
Idaho	304 North 8th Street, Room 345, Boise, ID 83702
Montana	10 East Babcock, Room 443, Federal Building, Bozeman, MT 59715
Nevada	1201 Terminal Way, Room 219, Reno, NV 89502
Oregon	1220 Southwest 3rd Ave., Room 1640, Portland, OR 97204
Utah	4402 Federal Building, 125 South State Street, Salt Lake City, UT 84147
Washington	360 U.S. Court House, Spokane, WA 99201-1080
Wyoming	Federal Building, 100 East "B" Street, Casper, WY 82601

In addition to state reports, a Water Supply Outlook for the Western United States is published by the Soil Conservation Service and National Weather Service monthly, January through May. Reports may be obtained from the Soil Conservation Service, West National Technical Center, 511 Northwest Broadway, Room 248, Portland, OR 97209.

Published by other agencies:

Water Supply Outlook Reports prepared by other agencies include: California — Snow Survey Branch, California Department of Water Resouces, P.O. Box 388, Sacramento, CA 95802; British Columbia — The Ministry of Environment, Water Investigations Branch, Parliament Buildings, Victoria, British Columbia, V8V 1X5; Yukon Territory — Department of Indian and Northern Affairs, Northern Operations Branch, 200 Range Road, Whitehorse, Yukon Territory, Y1A 3V1; Alberta, Environment Technical Services Division, 9820 106th St., Edmonton, Alberta T5K 2J6.

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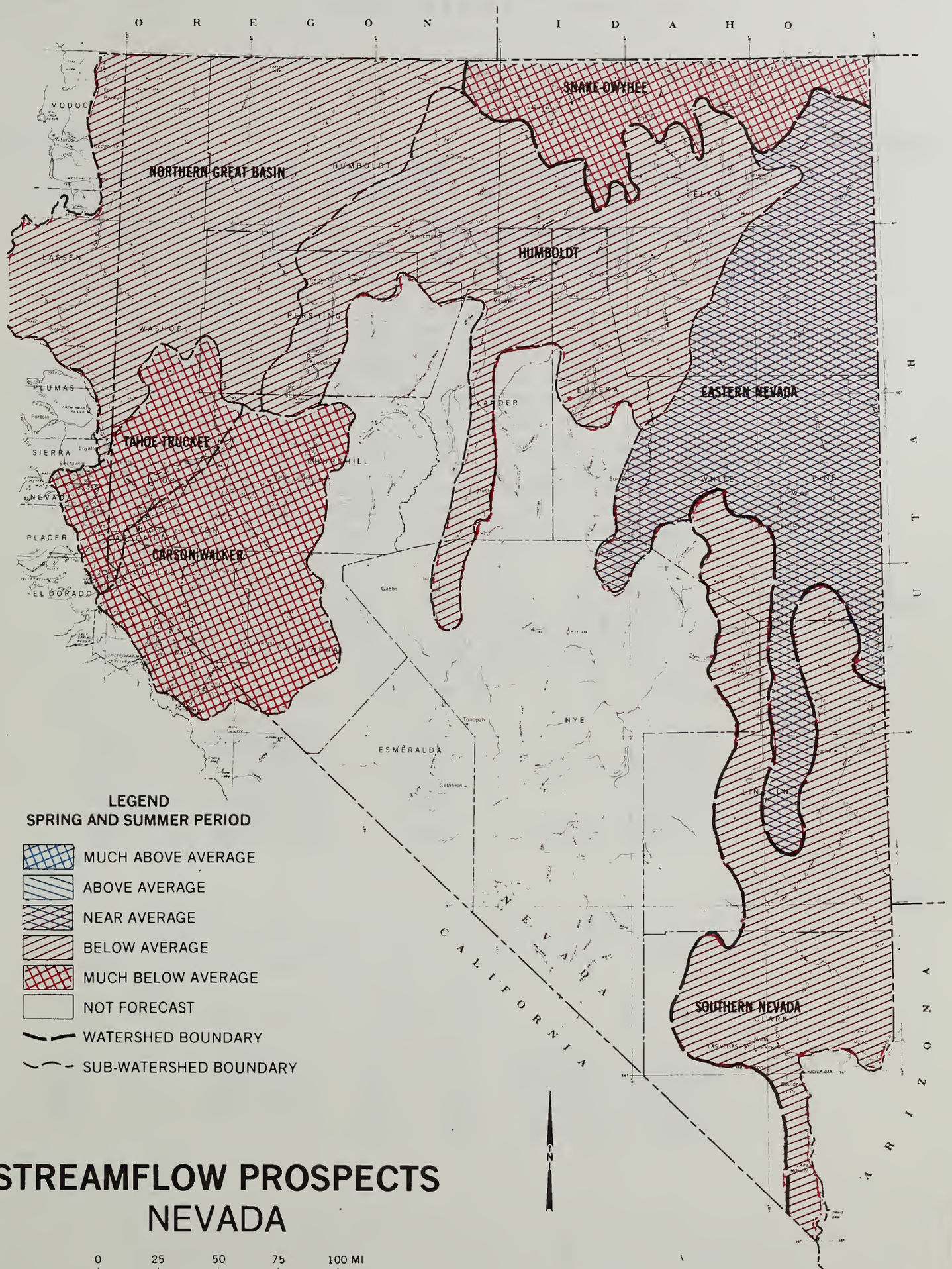
SOIL CONSERVATION SERVICE



LEGEND
SPRING AND SUMMER PERIOD

- MUCH ABOVE AVERAGE
- ABOVE AVERAGE
- NEAR AVERAGE
- BELOW AVERAGE
- MUCH BELOW AVERAGE
- NOT FORECAST
- WATERSHED BOUNDARY
- SUB-WATERSHED BOUNDARY

STREAMFLOW PROSPECTS
NEVADA

0 25 50 75 100 MI

0 50 100 150 KM

SOURCE: Data compiled by SCS Field Personnel.

APRIL 1985 4-R-39131

USDA SCS FORT WORTH TEXAS 1985

GENERAL OUTLOOK

SUMMARY

ON MARCH 1, SNOWPACK CONDITIONS RANGED FROM WELL BELOW AVERAGE IN THE SOUTHERN NEVADA, TAHOE-TRUCKEE, CARSON-WALKER AND NORTHERN GREAT BASINS TO BELOW AVERAGE IN THE SNAKE-OWYHEE, HUMBOLDT AND EASTERN NEVADA BASINS. FEBRUARY PRECIPITATION WAS WELL BELOW AVERAGE THROUGHOUT THE STATE. TOTAL PRECIPITATION SINCE OCT. 1 RANGES FROM WELL BELOW AVERAGE IN THE TAHOE-TRUCKEE, CARSON-WALKER, SNAKE-OWYHEE AND NORTHERN GREAT BASINS TO WELL ABOVE AVERAGE IN THE SOUTHERN NEVADA BASIN. RESERVOIR STORAGE ON THE LAST DAY OF FEBRUARY WAS WELL BELOW AVERAGE FOR THE STATE EXCEPT IN SOUTHERN NEVADA, WHICH WAS ABOVE AVERAGE. STREAMFLOW FORECASTS INDICATE FLOWS RANGING FROM WELL BELOW AVERAGE IN THE TAHOE-TRUCKEE, CARSON-WALKER, SNAKE-OWYHEE AND NORTHERN GREAT BASINS TO ABOVE AVERAGE IN THE SOUTHERN NEVADA BASIN AND PORTIONS OF THE HUMBOLDT AND EASTERN NEVADA BASINS.

SNOWPACK

Above average temperatures and unusually dry conditions severely impacted snowpack conditions throughout most of the state.

BASIN	% OF AVG.	BASIN	% OF AVG.
TAHOE	52%	HUMBOLDT	84%
TRUCKEE	54%	SNAKE	75%
CARSON	56%	OWYHEE	85%
WALKER	57%	EASTERN	81%
N. GREAT BASIN	53%	SOUTHERN	64%

PRECIPITATION

February precipitation was well below average throughout the state. Year-to-date precipitation is well below to below average for most of the state.

BASIN(S)	3/1 % OF AVG.	YTD % OF AVG.	BASIN(S)	3/1 % OF AVG.	YTD % OF AVG.
TAHOE & TRUCKEE	5	50	HUMBOLDT	23	83
CARSON & WALKER	9	58	EASTERN	26	95
N. GREAT BASIN	23	66	SOUTHERN	21	148
SNAKE & OWYHEE	43	69			

RESERVOIRS

Reservoir storage was well below average for most of Nevada. Southern Nevada had above average storage.

BASIN(S)	% CAPACITY	% OF AVERAGE
TAHOE & TRUCKEE	30%	55%
CARSON & WALKER	47%	68%
HUMBOLDT	32%	57%
SNAKE & OWYHEE	27%	69%
SOUTHERN NEVADA	94%	125%
SEVEN MAJOR RESERVOIRS	34%	58%

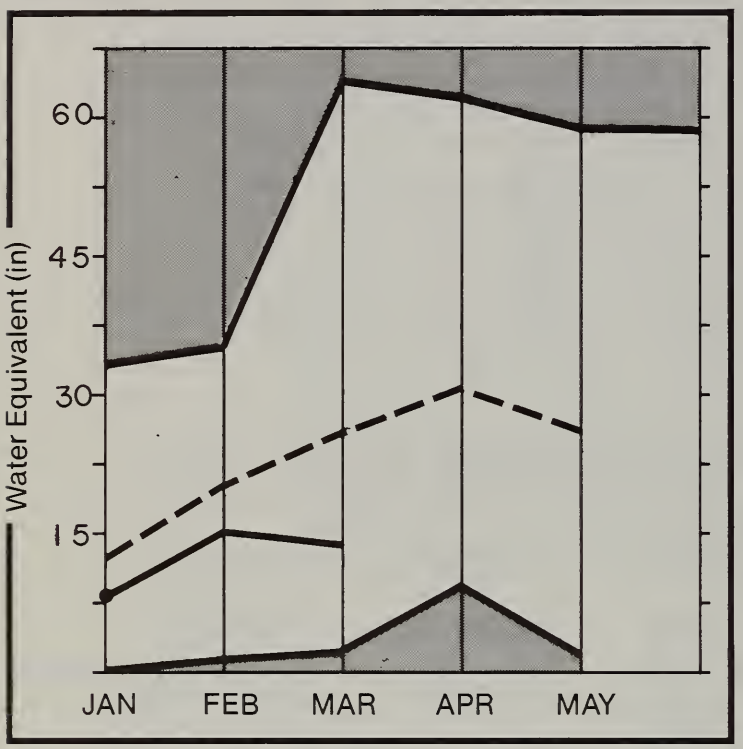
STREAMFLOW

Streamflows in the state are forecast at well below average to well above average for the April - July forecast period.

BASIN(S)	% OF AVG.	BASIN(S)	% OF AVG.
TAHOE & TRUCKEE	49%-56%	HUMBOLDT	70%-95%
CARSON & WALKER	50%-60%	EASTERN	84%-99%
N. GREAT BASIN	69%-71%	SOUTHERN	89%-118%
SNAKE & OWYHEE	55%-68%		

TAHOE & TRUCKEE BASINS

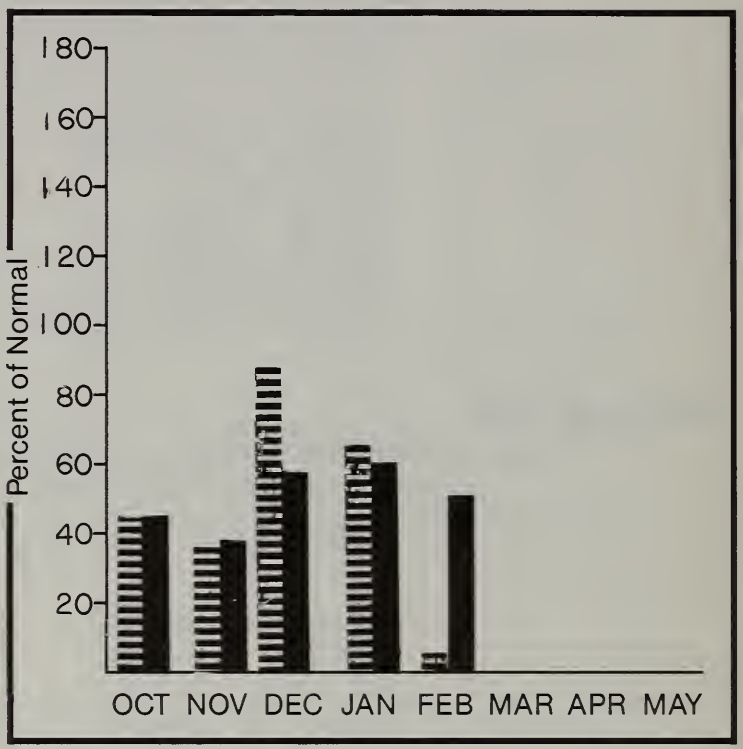
Mountain snowpack* (inches)



*Based on selected stations

Maximum
Minimum
Average
Current

Precipitation* (percent of normal)



*Based on selected stations

Monthly precipitation

Year to date precipitation

TAHOE & TRUCKEE BASINS

Snowpack conditions on March 1 are well below average. The Lake Tahoe Basin has about 52% of the March 1 average and 99% of the water content present last year at this time. The Truckee River Basin currently has 54% of average and 101% of last year. February precipitation for the Tahoe-Truckee Basin was 5% of average and 6% of last year. Precipitation since October 1, 1987 is 50% of average and 132% of last year's total precipitation figures at this time. Reservoir storage is 55% of average. Total storage for Boca, Lake Tahoe, Prosser and Stampede is 314,381 acre feet. Streamflow forecasts indicate well below average flows for the April - July forecast period. The Truckee River at Farad is expected to flow at 51% of normal.

For more information contact your local Soil Conservation Service office.

TAHOE & TRUCKEE BASINS

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	25 YR. AVG. (1000AF)	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	REAS. MAX. (1000AF)	REAS. MAX. (% AVG.)	REAS. MIN. (1000AF)	REAS. MIN. (% AVG.)
LAKE TAHOE RISE(assume gates closed)	APR-HIG	1.5	0.7	47	1.0	68	0.0	0
TRUCKEE RIVER at Farad 2	APR-JUL	284.7	145.0	51	270.0	95	20.0	7
LITTLE TRUCKEE RIVER above Boca 2	APR-JUL	91.5	45.0	49	91.0	99	10.0	11
PYRAMID LAKE RISE (LOW 2/1/87)	LOW-HIG	1.2	-0.6	-50				
STEAMBOAT CREEK at Steamboat 2	APR-JUL	7.1	3.5	49	7.0	99	1.0	14
SAGEHEN CREEK, Ca	APR-JUL	6.5	3.2	49	6.0	92	1.0	15
GALENA CREEK nr Steamboat, Nv	APR-JUL	4.5	2.5	56	4.0	89	1.0	22

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.
BOCA RESERVOIR	40.9	10.3	23.0	19.3
LAKE TAHOE	744.6	215.0	481.9	418.5
PROSSER RESERVOIR	28.6	10.2	9.5	8.3
STAMPEDE RESERVOIR	226.5	78.9	182.9	127.6

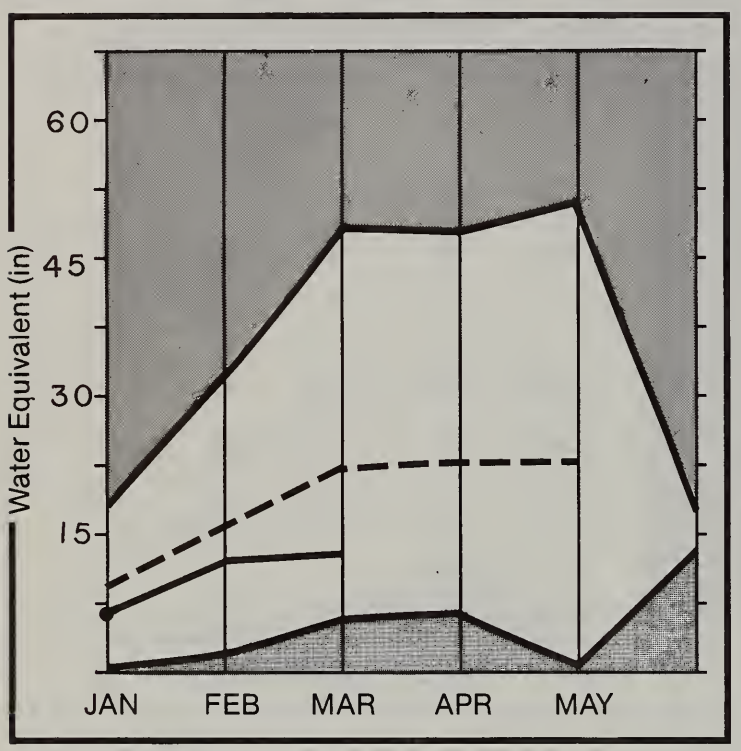
WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
LAKE TAHOE RISE	15	99	52
TRUCKEE BASIN	18	100	54
LITTLE TRUCKEE RIVER	3	117	55
SAGE HEN CREEK	5	109	59
GALENA CREEK	3	112	49
STEAMBOAT DRAINAGE	3	120	47
PYRAMID LAKE	33	100	53

1 - Reas. max. and reas. min. forecasts are for 5% and 95% exceedance levels and also (2) below.
2 - Corrected for upstream diversions or changes in reservoir storage.
The average is computed for the 1961-85 base period.

CARSON & WALKER BASINS

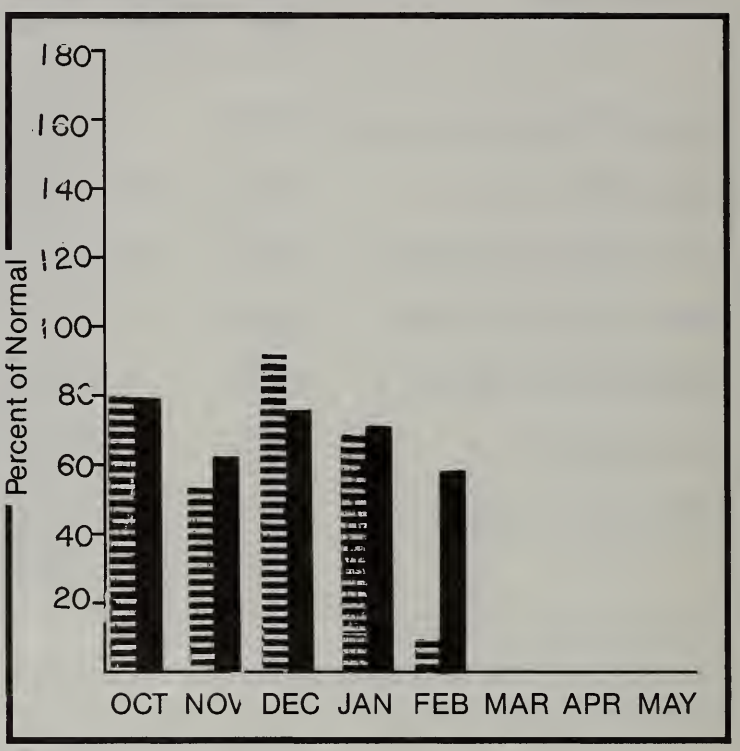
Mountain snowpack* (inches)



*Based on selected stations

Maximum
Minimum
Average
Current

Precipitation* (percent of normal)



*Based on selected stations

Monthly precipitation

Year to date precipitation

CARSON & WALKER BASINS

Snowpack conditions on March 1 are well below average. The Carson River Basin has about 56% of the March 1 average and 109% of the water content present last year at this time. The Walker River Basin currently has 57% of average and 123% of last year. February precipitation in the Carson-Walker Basins was 9% of normal and 10% of last year. Precipitation since October 1, 1987 is 58% of average and 146% of last year's total precipitation figures at this time. Reservoir storage is 68% of average. Total storage for Bridgeport, Lahontan and Topaz is 188,005 acre feet. Streamflow forecasts indicate well below average flows for the April - July forecast period. The Carson River near Carson City is expected to flow at 50% of normal.

For more information contact your local Soil Conservation Service office.

CARSON & WALKER BASINS

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	25 YR. AVG. (1000AF)	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	REAS. MAX. (1000AF)	REAS. MAX. (% AVG.)	REAS. MIN. (1000AF)	REAS. MIN. (% AVG.)
EF CARSON RIVER nr Gardnerville, Nv	APR-JUL	198.4	119.0	60	181.0	91	57.0	29
WF CARSON RIVER at Woodfords, Ca	APR-JUL	56.7	34.0	60	52.0	92	16.0	28
CARSON RIVER near Carson City, Nv	APR-JUL	198.3	100.0	50	187.0	94	20.0	10
CARSON RIVER near Ft. Churchill, Nv	APR-JUL	182.4	95.0	52	184.0	101	15.0	8
EAST WALKER RIVER nr Bridgeport 2	APR-AUG	76.8	40.0	52	79.0	103	8.0	10
WEST WALKER RIVER near Coleville, Ca	APR-JUL	154.6	80.0	52	125.0	81	35.0	23
WALKER LAKE RISE (LOW 2/1/87)	LOW-HIG	-0.0	-1.5	5000				

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.
BRIDGEPORT RESERVOIR	42.5	16.3	40.7	32.2
LAHONTAN RESERVOIR	295.1	154.6	227.4	211.9
TOPAZ RESERVOIR	59.4	17.2	37.3	33.9

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
E. CARSON RIVER	5	114	58
W. CARSON RIVER	4	116	59
CARSON Rv. at Carson City	4	105	57
CARSON Rv. at Ft. Churchi	4	105	57
E. WALKER Rv. nr Bridgepo	7	129	56
W. WALKER Rv. nr Colevill	8	112	52
WALKER LAKE RISE	10	124	55

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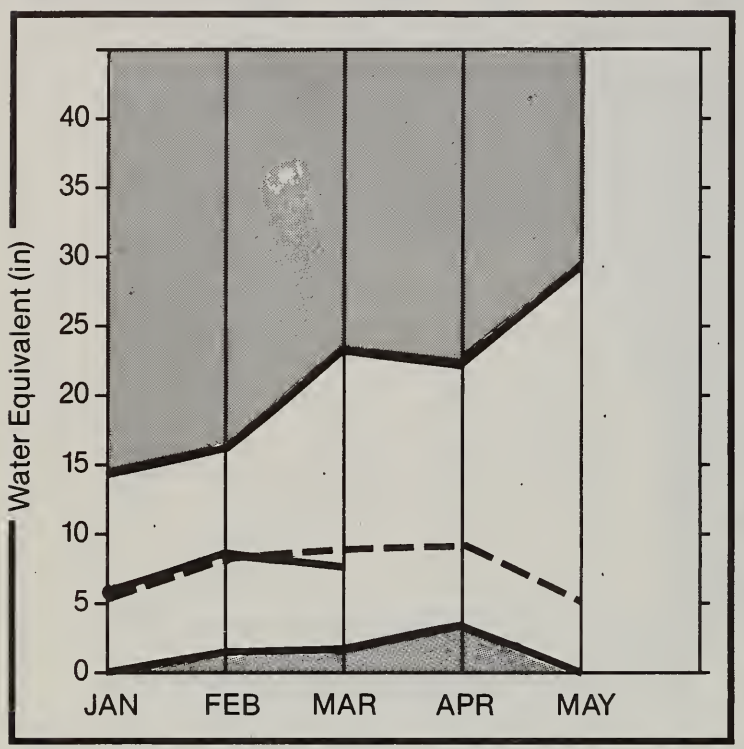
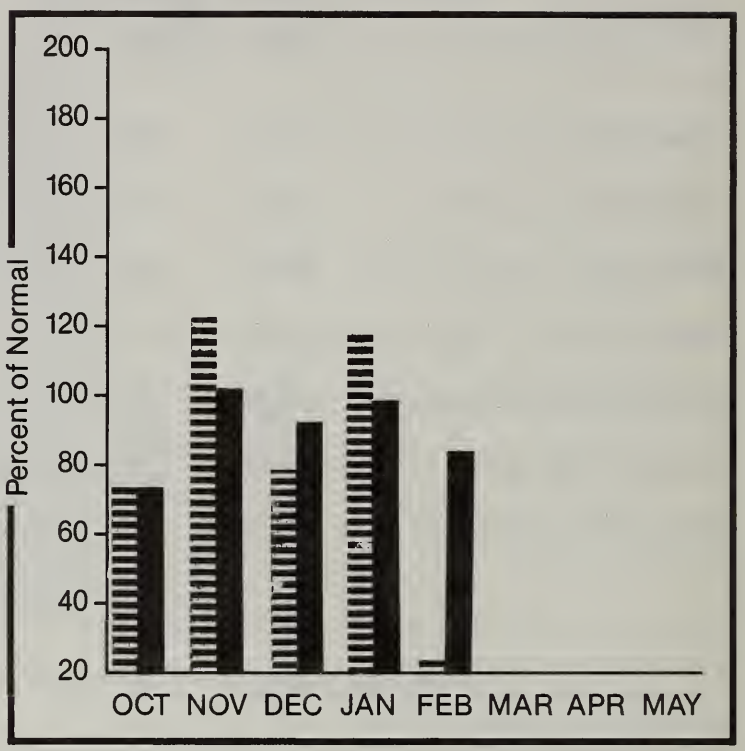
HUMBOLDT BASIN

Mountain snowpack* (inches)



*Based on selected stations

Precipitation* (percent of normal)



*Based on selected stations

Maximum

Minimum

Average

Current

Monthly precipitation

Year to date precipitation

HUMBOLDT BASIN

Snowpack conditions on March 1 are below average. The Upper Humboldt River Basin has about 88% of the March 1 average and 140% of the water content present last year at this time. The Lower Humboldt River Basin currently has 77% of average and 104% of last year. February precipitation in the Humboldt River Basin was 23% of average and 24% of last year. Precipitation since October 1, 1987 is 83% of average and 158% of last year's total precipitation figures at this time. Reservoir storage is 57% of average. Total storage for Rye Patch Reservoir is 62,700 acre feet. Streamflow forecasts indicate below average to near average flows for the forecast period. The Humboldt River at Palisade is expected to flow at 80% of average.

For more information contact your local Soil Conservation Service office.

HUMBOLDT BASIN

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	25 YR. AVG. (1000AF)	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	REAS. MAX. (1000AF)	REAS. MAX. (% AVG.)	REAS. MIN. (1000AF)	REAS. MIN. (% AVG.)
HUMBOLDT RIVER at Palisade	APR-JUL	269.0	215.0	80	425.0	158	40.0	15
HUMBOLDT RIVER at Comus	APR-JUL	229.1	180.0	79	400.0	175	35.0	15
S FORK HUMBOLDT RIVER at Dixie	APR-JUL	71.5	57.0	80	100.0	140	10.0	14
NF HUMBOLDT RIVER at Devils Gate	APR-JUL	34.3	26.0	76	55.0	160	7.0	20
MARY'S RIVER nr Deeth	APR-JUL	24.4	19.0	78	30.0	123	5.0	20
MARTIN CREEK nr Paradise Nv	APR-JUL	19.0	14.0	74	22.0	116	4.0	21
LAMOILLE CREEK nr Lamoille	APR-JUL	29.5	24.0	81	35.0	119	13.0	44
REESE RIVER nr Ione Nv	APR-JUL	7.8	7.4	95	13.0	167	2.0	26
L. HUMBOLDT RIVER nr Paradise Valley	APR-JUL	12.5	8.8	70	14.0	112	4.0	32
ROCK CREEK nr Battle Mtn.	APR-JUL	22.0	17.6	80	32.0	145	3.0	14

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.
RYE PATCH RESERVOIR	194.3	62.7	149.4	109.1

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
LAMOILLE CREEK	3	126	85
S. FORK HUMBOLDT	11	143	88
MARY'S RIVER	5	129	75
N. FORK HUMBOLDT	9	135	89
HUMBOLDT Rv. at Palisades	12	132	84
HUMBOLDT RIVER at Comus	12	132	84
LITTLE HUMBOLDT RIVER	4	95	61
MARTIN CREEK	5	86	59
REESE RIVER	3	164	126
ROCK CREEK	5	91	71

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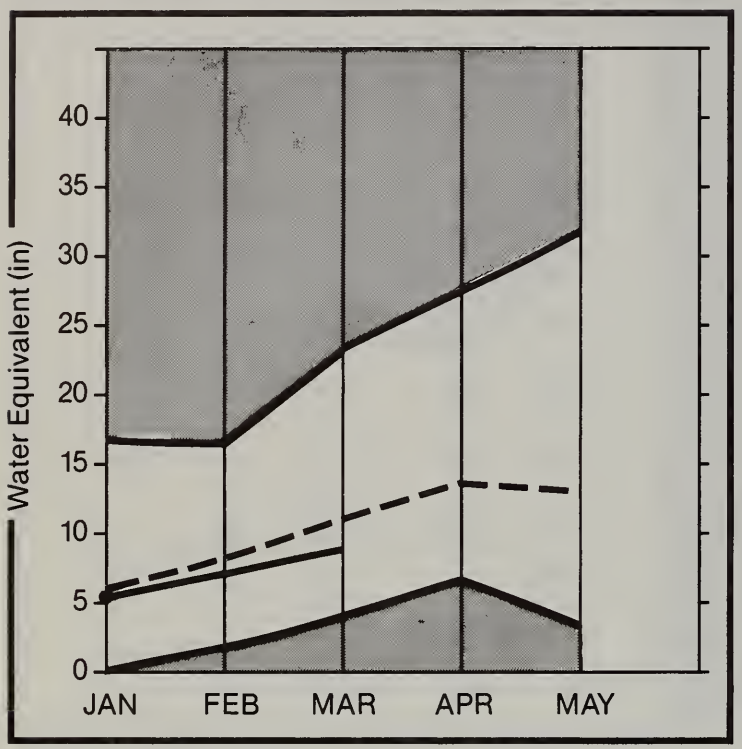
SNAKE & OWYHEE BASINS

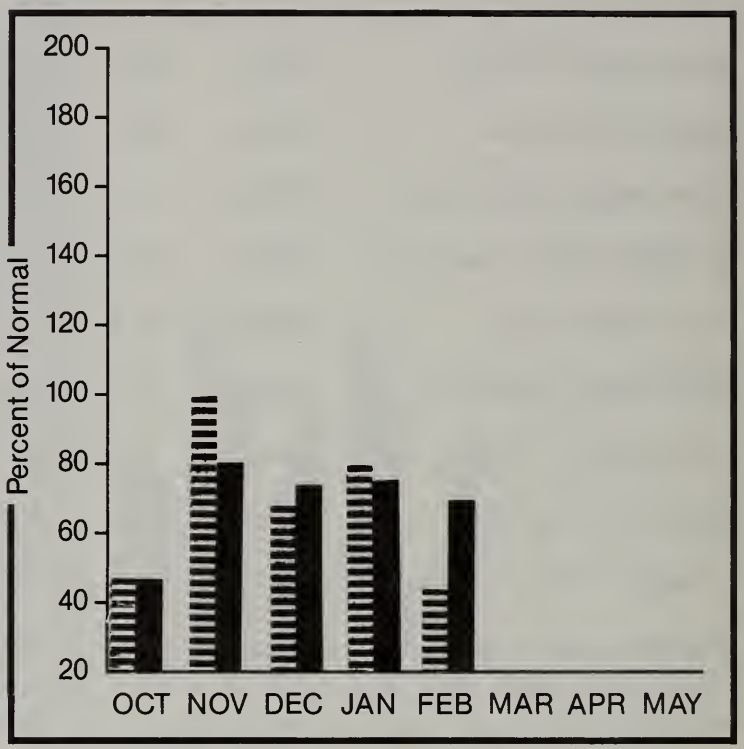
Mountain snowpack* (inches)



*Based on selected stations

Maximum
Minimum
Average
Current

Precipitation* (percent of normal)



*Based on selected stations

Monthly precipitation

Year to date precipitation

SNAKE & OWYHEE BASINS

Snowpack conditions on March 1 are below average. The Snake River Basin has about 75% of the March 1 average and 131% of the water content present last year at this time. The Owyhee River Basin currently has 85% of average and 123% of last year. February precipitation in the Snake-Owyhee Basins was 43% of average and 56% of last year. Precipitation since October 1, 1987 is 69% of average and 145% of last year's total precipitation figures at this time. Reservoir storage is 69% of average. Total storage for Wildhorse Reservoir is 19,204 acre feet. Streamflow forecasts indicate well below average to below average flows for the forecast period. The Owyhee River near Owyhee is expected to flow at 55% of average.

For more information contact your local Soil Conservation Service office.

SNAKE & OWYHEE BASINS

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	25 YR. AVG. (1000AF)	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	REAS. MAX. (1000AF)	REAS. MAX. (% AVG.)	REAS. MIN. (1000AF)	REAS. MIN. (% AVG.)
OWYHEE RIVER near Gold Creek	MAR-JUL	33.3	20.6	62	39.0	117	2.0	6
OWYHEE RIVER nr Owyhee	APR-JUL	86.0	47.0	55	93.0	108	4.0	5
S FORK OWYHEE nr White Rock, Nv	APR-JUL	83.0	55.0	66	99.0	119	11.0	13
SALMON FALLS CK nr San Jacinto	MAR-JUL	97.0	66.0	68	105.0	108	27.0	28

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.
WILDHORSE RESERVOIR	71.5	19.2	40.7	27.7

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
OWYHEE RIVER nr Owyhee	7	124	78
OWYHEE Rv. nr Gold Creek	4	125	83
S. FORK OWYHEE RIVER	7	124	78
SALMON FALLS CREEK	4	129	74

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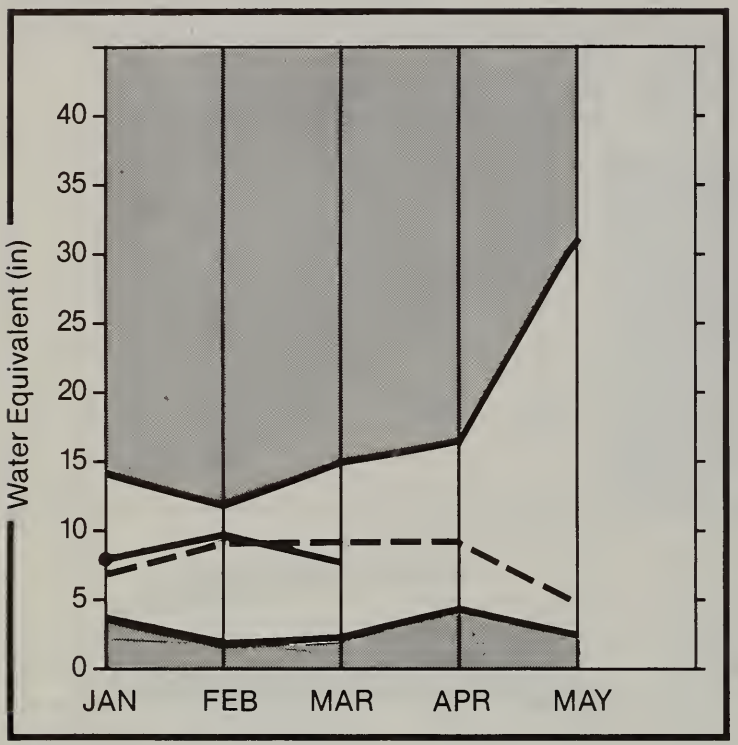
EASTERN NEVADA

Mountain snowpack* (inches)



*Based on selected stations

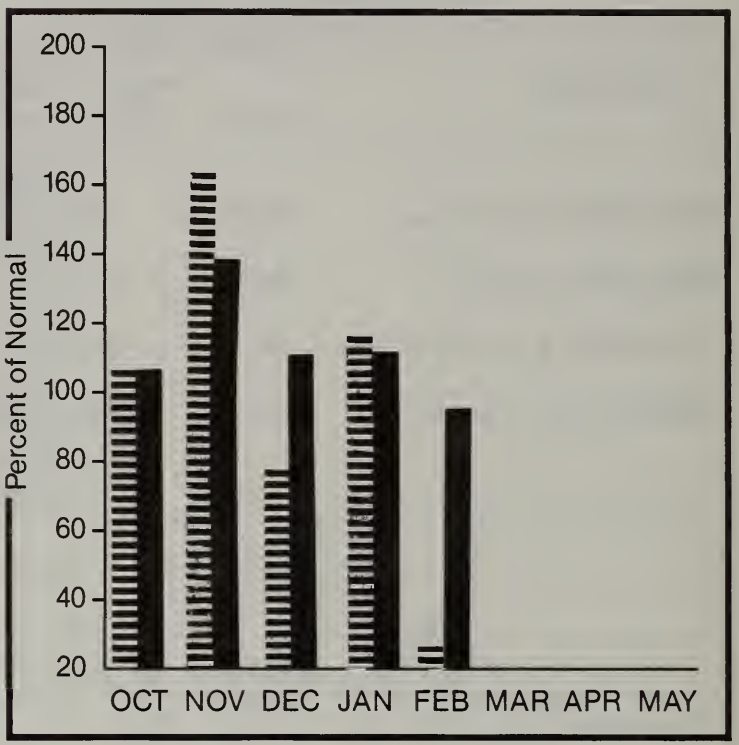
Maximum

Minimum

Average

Current

Precipitation* (percent of normal)



*Based on selected stations

Monthly precipitation

Year to date precipitation

EASTERN NEVADA

Snowpack conditions on March 1 are below average. The snow water content in the Franklin River Basin is about 87% of average and 201% of last year at this time. The snowpack in the Kingston Creek Basin is about 126% of average and 164% of last year. Overall, the Eastern Nevada Basin has 81% of the March 1 average and 146% of the water content present last year at this time. February precipitation in the Eastern Nevada Basin was 26% of average and 27% of last year. Precipitation since October 1, 1987 is 95% of average and 176% of last year's total precipitation figures at this time. Streamflow forecasts indicate below average to near average flows for the forecast period. The Franklin River near Arthur is expected to flow at 99% of normal.

For more information contact your local Soil Conservation Service office.

EASTERN NEVADA

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	25 YR. AVG. (1000AF)	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	REAS. MAX. (1000AF)	REAS. MAX. (% AVG.)	REAS. MIN. (1000AF)	REAS. MIN. (% AVG.)
STEPTOE CREEK nr Ely	APR-JUL	3.2	2.7	84	5.0	155	1.0	31
KINGSTON CREEK nr Austin, Nv	APR-JUL	4.2	4.1	97	7.0	166	1.0	24
FRANKLIN RIVER nr Arthur	APR-JUL	6.9	6.8	99	11.0	160	2.0	29

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.

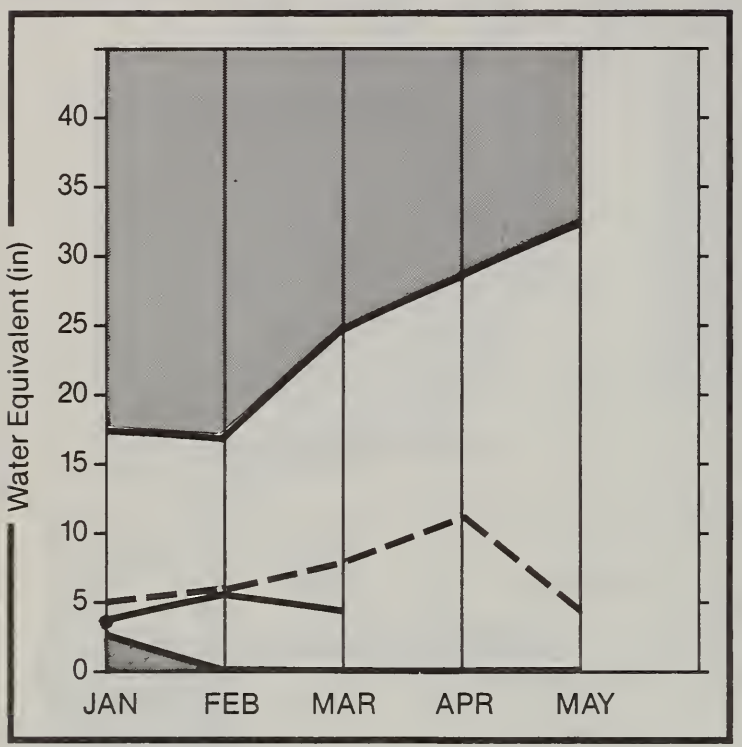
WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
FRANKLIN RIVER	3	201	87
KINGSTON CREEK	3	164	126
EASTERN NEVADA	5	129	79
STEPTOE VALLEY	2	117	89

1 - Reas. max. and reas. min. forecasts are for 5% and 95% exceedance levels and also (2) below.
2 - Corrected for upstream diversions or changes in reservoir storage.
The average is computed for the 1961-85 base period.

NORTHERN GREAT BASIN

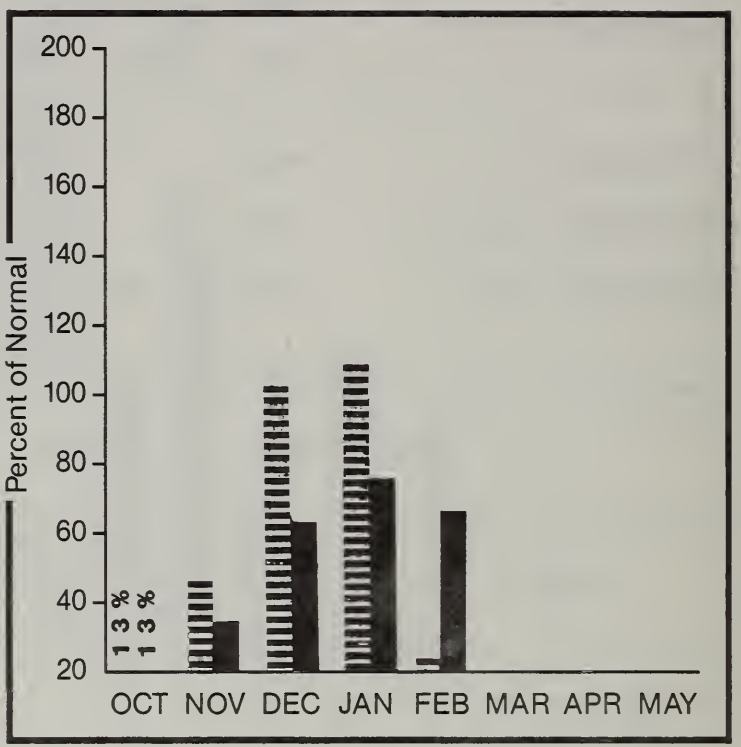
Mountain snowpack* (inches)



*Based on selected stations

Maximum
Minimum
Average
Current

Precipitation* (percent of normal)



*Based on selected stations

Monthly precipitation

Year to date precipitation

NORTHERN GREAT BASIN

Snowpack conditions on March 1 are well below average. Snow water content in the Bidwell Creek Watershed is about 63% of average and 94% of last year. The Quinn River Watershed is about 51% of average and 88% of last year. Overall, the Northern Great Basin has 53% of the March 1 average and 80% of the water content present last year at this time. February precipitation in the Northern Great Basin was 23% of average and 23% of last year. Precipitation since October 1, 1987 is 66% of average and 116% of last year's total precipitation figures at this time. Streamflow forecasts indicate well below average to below average flows for the forecast period. Bidwell Creek near Fort Bidwell is expected to flow at 70% of normal.

For more information contact your local Soil Conservation Service office.

NORTHERN GREAT BASIN

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	25 YR. AVG. (1000AF)	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	REAS. MAX. (1000AF)	REAS. MAX. (% AVG.)	REAS. MIN. (1000AF)	REAS. MIN. (% AVG.)
BIDWELL CREEK nr Fort Bidwell	APR-JUL	12.0	8.4	70	15.0	125	3.0	25
DEEP CREEK nr Cedarville, Ca	APR-JUL	3.6	2.5	69	4.0	111	1.0	28
EAGLE CREEK nr Eagleville, Ca	APR-JUL	4.3	3.0	70	5.0	116	1.0	23
MILL CREEK nr Cedarville, Ca	APR-JUL	4.1	2.9	71	5.0	122	1.0	24
QUINN RIVER nr McDermitt, Nv	APR-JUL	16.0	11.0	69	18.0	113	4.0	25
E. FORK QUINN RIVER nr McDermitt	APR-JUL	10.4	7.3	70	12.0	115	2.0	19
MCDERMITT CREEK nr McDermitt	APR-JUL	14.4	10.0	69	16.0	111	4.0	28

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.

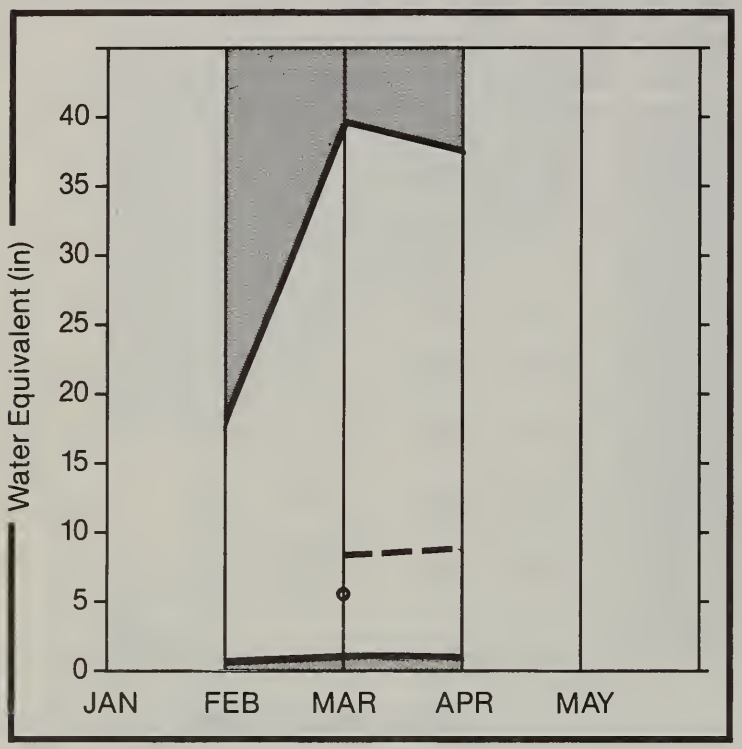
WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
BIDWELL	2	94	63
MILL CREEK	1	136	75
DEEP CREEK	1	136	75
EAGLE CREEK	1	136	75
QUINN RIVER	3	78	48
E. FORK QUINN	3	78	48
McDERMITT CREEK	3	78	48

1 - Reas. max. and reas. min. forecasts are for 5% and 95% exceedance levels and also (2) below.
2 - Corrected for upstream diversions or changes in reservoir storage.
The average is computed for the 1961-85 base period.

SOUTHERN NEVADA

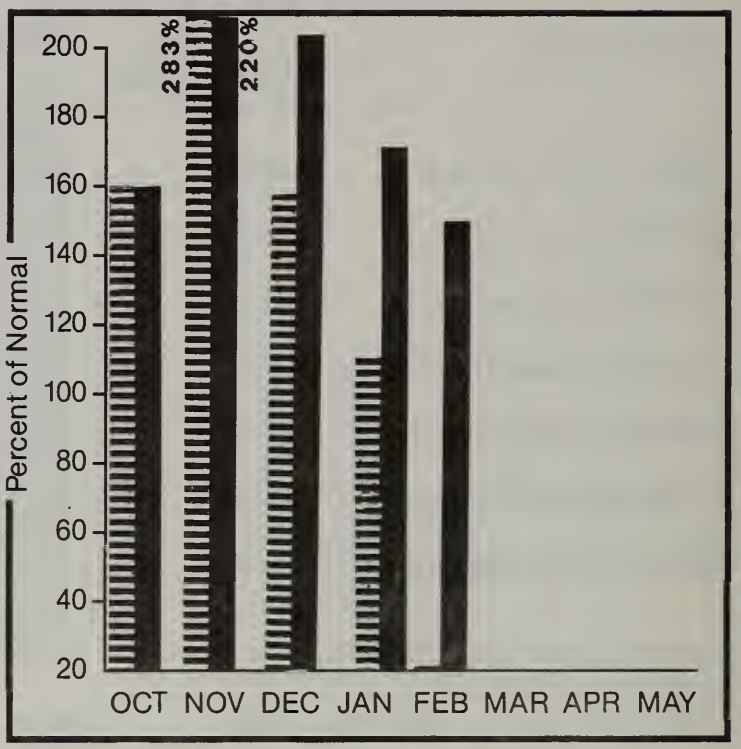
Mountain snowpack* (inches)



*Based on selected stations

Maximum
Minimum
Average
Current

Precipitation* (percent of normal)



*Based on selected stations

Monthly precipitation

Year to date precipitation

SOUTHERN NEVADA

Snowpack conditions on March 1 are well below average in southern Nevada. The Lower Colorado River Basin has about 64% of the March 1 average and 205% of the water content present last year at this time. The Virgin River Watershed currently has 88% of average and 124% of last year. February precipitation in the Southern Nevada Basin was 21% of average and 27% of last year. Precipitation since October 1, 1987 is 148% of average and 176% of last year's total precipitation figures at this time. Reservoir storage is 125% of average. Total storage for Lake Mohave and Lake Mead is 26,410,500 acre feet. Streamflow forecasts indicate the Virgin River near Hurricane, UT will flow at 118% of average during the April - July forecast period.

For more information contact your local Soil Conservation Service office.

SOUTHERN NEVADA

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	25 YR. AVG. (1000AF)	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	REAS. MAX. (1000AF)	REAS. MAX. (% AVG.)	REAS. MIN. (1000AF)	REAS. MIN. (% AVG.)
VIRGIN RIVER near Hurricane, UT	APR-JUL	68.0	80.0	118	105.0	154	53.0	78
LAKE POWELL inflow	APR-JUL	8086.0	7200.0	89	10100.0	125	4690.0	58

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.
LAKE MOHAVE	1810.0	1764.5	1711.0	1664.0
LAKE MEAD	26159.0	24646.0	24485.0	19400.0

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
VIRGIN Rv. at Littlefield	4	124	88
VIRGIN Rv. at Hurricane,	4	124	88

1 - Reas. max. and reas. min. forecasts are for 5% and 95% exceedance levels and also (2) below.
2 - Corrected for upstream diversions or changes in reservoir storage.
The average is computed for the 1961-85 base period.

SNOW DATA MEASUREMENTS

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85
LAKE TAHOE						
ECHO PEAK (CA)	7800	2/24/88	49	20.1	19.5	34.2
ECHO SUMMIT (CA)	7450	2/26/88	40	14.8	14.9	28.4
FALLEN LEAF (CA)	6300	2/29/88	11	3.8	4.1	6.9
FREEL BENCH (CA)	7300	2/24/88	10	3.7	5.6	10.6
GLENBROOK #2	6900	2/29/88	14	4.2	6.4	11.0
HAGANS MEADOW (CA)	8000	2/23/88	20	6.6	9.4	15.5
HEAVENLY VALLEY (CA)	8850	2/29/88	34	12.4	10.4	25.2
LAKE LUCILLE (CA)	8200	3/03/88	84	30.6	26.1	51.5
MARLETTE LAKE	8000	2/24/88	29	9.8	12.2	19.0
RICHARDSONS #2 (CA)	6500	3/01/88	27	7.7	9.2	14.4
RUBICON #1 (CA)	8100	3/03/88	76	25.8	16.5	39.2
RUBICON #2 (CA)	7500	3/03/88	39	15.1	--	24.9
TAHOE CITY CROSS(CA)	6750	2/27/88	19	7.0	9.6	17.5
TRUCKEE, UPPER (CA)	6400	2/24/88	9	3.2	5.1	9.1
WARD CREEK #2 (CA)	7000	2/25/88	48	18.0	18.0	35.3
WARD CREEK #3 (CA)	6750	2/24/88	47	15.9	18.1	32.2
TRUCKEE RIVER						
BIG MEADOWS	8300	2/24/88	33	11.2	10.3	25.9
BOCA #2 (CA)	5900	2/24/88	---	2.4E	2.5	5.6
BROCKWAY SUMMIT (CA)	7100	2/27/88	19	6.2	8.6	16.1
CASTLE CREEK (CA)	7400	3/03/88	64	25.2	23.0	42.2
DONNER PARK #2 (CA)	6000	2/25/88	---	9.4E	9.2	14.3
DONNER SUMMIT (CA)	6900	2/25/88	44	20.0	19.5	32.3
FORDYCE LAKE (CA)	6500	2/26/88	46	19.8	19.7	32.7
FURNACE FLAT (CA)	6700	2/26/88	59	24.8	23.4	38.1
INDEPENDENCE CAMP CA	7000	2/24/88	30	9.7	8.7	19.8
INDEPENDENCE CREEK	6500	2/24/88	22	6.1	6.2	11.8
INDEPENDENCE LAKE CA	8450	2/24/88	54	20.6	16.1	34.7
LITTLE VALLEY	6300	2/24/88	10	2.6	3.7	7.1
MT. ROSE	9000	2/24/88	41	15.0	8.8	30.5
MT. ROSE SKI AREA	9000	2/25/88	49	18.0	17.1	38.6
SAGEHEN CREEK (CA)	6500	2/24/88	---	8.3E	8.5	15.6
SQUAW VALLEY #2 (CA)	7500	2/25/88	63	23.9	33.2	41.1
SQUAW VALLEY G.C.,CA	8200	2/25/88	62	25.6	23.7	47.3
TAHOE CITY CROSS(CA)	6750	2/27/88	19	7.0	9.6	17.5
TRUCKEE #2 (CA)	6400	2/27/88	21	6.2	7.0	12.8

SNOW DATA MEASUREMENTS (CONT)

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85
CARSON RIVER						
BLUE LAKES (CA)	8000	2/24/88	52	20.0	14.3	32.6
CARSON PASS, UP (CA)	8600	3/02/88	51	18.4	17.5	30.4
CLEAR CREEK	7300	3/03/88	11	3.4	6.0	10.7
EBBETTS PASS #2 (CA)	8700	2/23/88	45	16.5	14.5	34.1
MONITOR PASS AM(CA)	8350	2/23/88	9	2.7	8.4	--
POISON FLAT #2 (CA)	7900	2/23/88	29	9.2	10.7	15.8
SPRATT CREEK (CA)	6080	2/23/88	0	.0	1.4	--
WET MEADOWS #2 (CA)	8100	2/23/88	58	22.0	18.4	36.2
WALKER RIVER						
CENTER MOUNTAIN (CA)	9400	2/23/88	---	22.2E	18.8	34.2
LEAVITT LAKE (CA)	9400	2/23/88	62	23.7	17.5	41.6
LEAVITT MEADOWS (CA)	7200	2/23/88	13	4.9	6.7	10.5
LOBDELL LAKE (CA)	9200	2/23/88	26	6.8	7.3	15.9
SAWMILL RIDGE (CA)	8750	2/23/88	31	8.5	7.7	17.5
SONORA PASS (CA)	8800	2/23/88	34	11.1	11.2	22.8
TIOGA PASS (CA)	9900	3/02/88	59	20.0	8.7	25.5
VIRGINIA LAKES (CA)	9500	2/23/88	26	9.1	7.1	16.2
VIRGINIA LAKES RIDGE	9200	2/23/88	30	8.6	7.9	16.6
WILLOW FLAT (CA)	8250	2/23/88	18	5.0	4.2	10.3
NORTHERN GREAT BASIN						
BALD MOUNTAIN AM	6720	2/26/88	4	1.6	1.9	3.4
DISASTER PEAK	6500	2/23/88	19	5.4	6.1	12.9
DISMAL SWAMP #2 (CA)	7000	2/26/88	43	14.6	18.0	24.9
GOVERNMENT CORRALS	7450	2/25/88	24	8.7	11.3	--
LITTLE BALLY MTN. AM	6000	2/26/88	3	1.5	3.8	3.3
PUEBLO SUMMIT AM	6800	3/07/88	0	.0	--	--
QUINN RIDGE AM	6300	3/07/88	0	.0	2.0	1.7
TROUT CREEK AM	7800	3/07/88	19	6.5	6.9	8.6

SNOW DATA MEASUREMENTS (CONT)

SNOW COURSE		ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85
HUMBOLDT RIVER, UPPER							
AMERICAN BEAUTY	AM	7800	2/22/88	30	8.4	--	8.2
CORRAL CANYON		8500	3/01/88	---	12.1E	7.6	13.4
DORSEY BASIN		8100	3/01/88	---	10.3E	6.5	11.7
DRY CREEK		6500	2/23/88	---	3.9E	2.1	4.0
FRY CANYON		6700	2/25/88	---	6.6E	4.9	6.7
GREEN MOUNTAIN		8000	3/01/88	---	10.3E	7.3	11.8
HARRISON PASS #1		6600	3/01/88	---	3.1E	3.6	3.9
HARRISON PASS #2		7400	3/01/88	---	4.2E	3.3	5.0
LAMOILLE #1		7100	2/25/88	30	8.1	5.9	8.4
LAMOILLE #3		7700	2/25/88	31	8.8	7.8	10.6
LAMOILLE #5		8700	2/25/88	55	18.8	14.6	22.8
POLE CANYON #2		7700	3/01/88	---	11.9E	5.6	13.5
RODEO FLAT		6800	2/23/88	---	5.4E	5.5	5.9
RYAN RANCH		5800	2/23/88	---	.0E	.9	1.1
SMITH CREEK		7700	3/01/88	---	10.1E	6.9	10.9
TENT MTN, LOWER	AM	7000	2/22/88	31	8.4	--	13.7
TENT MTN, UPPER	AM	8350	2/22/88	55	15.4	--	15.9
TREMEWAN RANCH		5700	2/23/88	6	1.9	.4	1.8
TROUT CREEK, LOWER		6900	2/25/88	---	6.5E	4.1	7.6
TROUT CREEK,UPPER	AM	8500	2/25/88	---	12.9E	--	16.0
HUMBOLDT RIVER, LOWER							
BIG CREEK CAMPGROUND		6600	2/17/88	9	2.7	--	1.7
BIG CREEK MINE		7600	2/17/88	23	6.6	5.5	4.7
BIG CREEK SUMMIT		8700	2/17/88	35	11.5	6.8	10.0
BIG CREEK, UPPER		7800	2/17/88	28	8.3	3.8	6.2
BUCKSKIN, LOWER		6700	2/23/88	15	4.6	6.5	8.0
BUCKSKIN, UPPER		8200	2/23/88	18	6.8	4.6	9.5
GOLCONDA #2		6000	2/23/88	17	4.8	5.1	5.2
GRANITE PEAK		7800	2/23/88	27	8.4	9.5	14.4
LAMANCE CREEK		6000	2/23/88	19	5.4	5.8	9.6
MARTIN CREEK		6700	2/23/88	17	4.9	8.4	9.2
MIDAS		7200	2/22/88	1	.1	2.6	3.3
SNOWSTORM MTN	AM	7420	2/22/88	28	8.1	--	10.9
TOE JAM AM	AM	7700	2/22/88	28	7.8	7.7	9.2

SNOW DATA MEASUREMENTS (CONT)

SNOW COURSE		ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85
SNAKE RIVER							
BEAR CREEK		7800	2/25/88	44	13.2	10.7	18.2
FOX CREEK		6800	2/25/88	30	8.4	6.4	9.9
GOAT CREEK		8800	2/25/88	40	11.5	8.1	16.0
HUMMINGBIRD SPRINGS		8950	2/25/88	52	15.6	12.2	20.2
JAKES CREEK	AM	7000	2/22/88	9	2.5	--	4.7
MERRIT MOUNTAIN	AM	7000	2/22/88	13	3.4	3.8	5.2
POLE CREEK R.S.		8330	2/25/88	46	14.6	10.8	17.4
SEVENTYSIX CREEK		7100	3/01/88	---	7.2E	6.5	11.3
STAG MOUNTAIN	AM	7700	2/22/88	16	4.2	1.2	5.4
OWYHEE RIVER							
BIG BEND		6700	2/23/88	26	7.2	4.2	8.0
COLUMBIA BASIN	AM	6650	2/22/88	21	5.9	7.1	8.4
GOLD CREEK		6600	2/23/88	18	4.4	2.5	5.2
JACK CREEK, LOWER		6800	2/24/88	20	5.4	4.1	4.6
JACK CREEK, UPPER		7250	2/24/88	26	7.1	7.1	8.0
JACK CREEK #2,UPPER		7280	2/24/88	40	12.1	10.8	--
JACKS PEAK		8420	3/01/88	---	16.3E	11.8	20.3
LAUREL DRAW		6700	3/01/88	---	6.3E	6.5	7.7
LOUSE CANYON	AM	6440	3/07/88	0	.0	3.7	4.8
TAYLOR CANYON		6200	2/24/88	17	4.2	2.9	5.0
EASTERN NEVADA							
BAKER CREEK #1		7950	2/23/88	19	3.1	3.6	5.6
BAKER CREEK #2		8950	2/23/88	33	7.1	6.3	11.0
BERRY CREEK		9100	2/16/88	41	8.7	9.1	11.4
BIRD CREEK		7500	2/16/88	19	4.4	2.1	3.4
HOLE-IN-MOUNTAIN		7900	2/25/88	---	15.5E	6.2	18.6
KALAMAZOO CREEK		7400	2/27/88	26	8.0	4.9	6.0
MURRAY SUMMIT		7250	2/25/88	9	1.8	.7	3.0
ROBINSON SUMMIT		7600	2/25/88	8	2.5	1.1	2.1
WARD MOUNTAIN #2		9200	2/16/88	23	4.9	4.3	8.2
LOWER COLORADO RIVER							
KYLE CANYON		8200	2/26/88	22	6.6	2.9	9.8
LEE CANYON #2		9000	2/26/88	24	6.4	4.2	8.6
LEE CANYON #3		8500	2/26/88	18	5.5	2.1	8.1
RAINBOW CANYON #2		8100	2/26/88	25	7.6	3.2	13.3

SNOW CORE MEASUREMENTS - DRI-ASC

DATE FEB.	SITE	ELEVATION FEET	LOCATION	SNOW IN.	WATER IN.	DENSITY	% OF NORMAL
26	JC	5800	Clear Creek	0	0	---	
26	SS	7260	Spooner Summit	12	(4.6)	(.38)	
26	FT	5250	Cliff Ranch, Franktown	0	0	---	
26	LV	6540	Little Valley	4.0	1.5	.38	
26	DC	5160	Davis Creek	0	0	---	
26	8	4590	Jct. 395 & NV 27	0	0	---	
26	6	5110	Lancer	0	0	---	
26	4	5670	Whites Creek	0	0	---	
26	R	5700	Evergreen Hills Rd.	8.0	3.0	.38	
26	2	6000	Jones Creek	8.0	3.0	.38	
26	0	6400	RNR Forestry Site	12.0	3.5	.29	42
26	N	7060	Reindeer Lodge	16.0	4.2	.26	30
26	M	7440	Galena Creek	25.0	8.1	.32	41
26	K	7620	Sky Tavern	18.0	6.0	.33	31
26	G	8280	Mt. Rose Resort	36.0	13.5	.38	42
26	D	8820	Tamarack Lake	37.0	12.4	.34	40
26	A	8540	Tahoe Meadows	43.0	16.8	.39	43
26	U	8000	Below Incline Lake	22.0	9.3	.42	40
26	V	7300	Apollo Way	0	0	---	0
26	Z	6235	Third & Incline Creeks	0	0	---	
26	BS	7200	Brockway Summit	21.0	8.2	.39	
26	NS	6320	North Star Fire Dept.	13.0	4.2	.32	
26	TRK	5900	Truckee - Tahoe Airport	0	0	---	
26	CK	6540	Cabin Creek	28.0	10.1	.36	
26	SV	6240	Squaw Valley Fire Dept.	4.0	1.5	.38	
26	TC	6200	Thunder Cliff	12.0	5.3	.44	
26	TP	6240	Tahoe City	10.0	4.1	.41	
26	BF	6200	Bennett Flat	21.0	8.1	.39	
26	AC	6960	Alder Creek	43.0	15.6	.36	
26	HM	5850	Hobart Mills	14.0	4.3	.31	
26	SA	6340	Sagehen Creek	25.0	(8.8)	(.35)	
26	LT	6410	Henness Past Jct.	23.0	7.1	.31	
26	FL	6200	Fuller Lake	0	0	---	
26	JL	6000	Joy Lake	0	0	---	
			( ) Estimated				

Surviving a Water Shortage Takes Good Management

What can be done to nurture trees, shrubs, lawns and gardens through a water-short year?

First, try to learn all you can about how much water will be available and what regulations might be put into effect.

Absorb all you can about relationships among soil, water and plants — especially your own.

Develop a plan for applying water based on supply, needs, alternatives and current conditions.

Observe and measure how your plan is working.

Those plant, water and soil relationships are crucial to success of your management plan.

Plants differ in how much water they need to survive or prosper — and this varies with climate and changing weather conditions.

Sprinklers and other devices for applying water vary in how fast they can deliver water.

And finally, soils differ in how fast they absorb moisture, how much they store and how long they retain it.

A rule of thumb says 1 inch of moisture will penetrate 12 inches deep in sandy soil; 7 inches in loam, and 4 to 5 inches in clay.

ALTERNATIVES

Save water for plants that can't survive without it.

Reduce watering of other plants to subsistence level. (Lawns can do without water for a long time and green up again when moisture is available.)

Don't plant annuals when water shortage is imminent.

If a vegetable garden is important, many perennials can do without water better than annuals can.

Hold up on new landscaping or consider desert or native plants.

If you were planning to remove any lawn, trees or shrubs in the future; this would be the year to do the work before you start watering.

Change your lawn and garden watering system. Try automatic, drip or different sprinkler heads for better efficiency.

APPLY WATER EFFICIENTLY

Water deep and less often. Shallow, frequent watering encourages shallow roots, more evaporation loss and reduces the moisture reservoir in the soil.

For best results check how long it takes to soak the entire root zone and how long this watering will last.

Don't apply water faster than soil can absorb.

Don't let water run off into street or driveway.

Water early in the day to reduce evaporation loss.

CONSERVE MOISTURE

Mulch around trees and shrubs and between garden rows. This holds in moisture, discourages weeds which compete for moisture.

Aerate your lawn to permit better water penetration.

Set your lawn mower blade to leave 2 or more inches of grass after mowing.

Fertilize adequately. A sick looking lawn or garden many need more fertilizer, not more water. Apply fertilizer before regular watering.

If it rains, reduce watering time accordingly. Measure how much rain has fallen, adjust watering schedule and duration accordingly.

Stretch Your Irrigation Water

Soil can absorb irrigation water only at a given rate, which varies for each soil type. Water requirements vary for different crops. Make sure you apply water to your crop only when needed. Check soil moisture by space, probe, or soil moisture meter, and make careful visual checks of your crops.

If you have a conservation plan on your farm, or if the soil in your area has been mapped, the Soil Conservation Service can cross-check soil type and irrigation data and provide you with the water holding capacity of your soil for a given crop.

Don't know if your soil has been mapped? Check with the local SCS office. Even if the soil has not been mapped, the SCS can supply you with general information.

Water stretching measures are important to most farmers in the West. To use your available water in the most productive way possible, here's a checklist to help you analyze your irrigation system.

IRRIGATION SYSTEMS

Inspect your system *before* water starts to flow.

Make sure ditches are clean and free from weeds, sediment, or other debris which can slow water velocity, affect delivery rate and increase evaporation.

Consider lining ditches with concrete or plastic. This could avoid the 10-90 percent loss which often occurs in ditches.

Make sure ditch structures — like headgates, drop structures, and pipe inlets — are strong and functional. A washed-out ditch structure could mean a lot of water lost.

Make sure ditchbanks are firm and not burrowed into by rodents. Rodent holes could cause leakage or failures.

Make sure your pump is operating at peak efficiency. Adequate maintenance will improve efficiency, guard against water loss, and avoid shutdowns.

SPRINKLER SYSTEMS

Make sure nozzles aren't worn and leaky. Check pipe connections and valves to prevent leaks.

Operate sprinklers at recommended pressure. Use application rate, efficiency factor and time of application to figure how much to apply.

Consider trickle systems for orchards, vineyards, etc. Operate at recommended design values and maintain the filter system.

IRRIGATION MANAGEMENT

Measure the amount of water applied to the field. This can indicate when and how much to irrigate.

Consider alternate row irrigation for crops planted in furrows. But remember to alternate the "alternate" row in later irrigations.

Consider shorter runs if you furrow irrigate. Match stream size and velocity to soil intake rate and capacity.

Consider catching and re-using tail water by pumping it back to the head of the system or re-using elsewhere.

Irrigate most crops when soil moisture reaches about 50 percent of capacity.

Range & Pasture Demand Extra Care When Water is Short

Roots transport moisture and nutrients to growing plants. When plants are overgrazed, root growth stops; when root growth stops, leaf growth stops too.

IRRIGATED PASTURE management practices which encourage root and leaf growth are the same practices which allow plants to make the best use of soil moisture. They include:

- Rotation grazing with adequate rest and regrowth periods
- Leaving 4-6 inches of top growth at the end of each grazing period
- Fertilizing properly
- Applying irrigation water in the right amount at the right time

RANGE AND DRY PASTURE forage production depends entirely on natural moisture. Overgrazing during a drought does more damage to perennial plants than during a season of normal moisture. It reduces plant vigor, stops root and leaf growth, reduces ground cover, and invites accelerated erosion. Once erosion begins, it tends to get worse each year, further reducing plant vigor and forage production. This process is difficult to reverse.

RATHER THAN RISK PERMANENT DAMAGE TO GRAZING RESOURCES:

- Reduce livestock numbers to balance with forage supply
- Cull herds more than normal
- Sell calves and lambs early
- Determine forage needs and buy needed supplements early
- Grow small grains or sorghums for hay or pasture (these need less water than conventional forage crops)
- Defer planting perennial pasture, hay, or range seedings until a year with more favorable water outlook
- Keep spring developments, stock tanks, float valves and pipelines in good working order so water is not wasted
- Use evaporation retardants on ponds and tanks
- Prepare for hauling stock water
- Give spring development high priority (even mediocre springs will be helpful)
- Check with local SCS and ASCS offices to learn if regular or emergency cost-share programs are available to help with spring development, water harvesting, storage tanks, or other water conservation practices
- Don't overgraze or otherwise disturb streambank vegetation (it will be needed to prevent erosion, reduce sediment, and provide food and cover for wildlife)
- Remember, if a pasture unit must be abused, well established seedings can tolerate overgrazing better than native range.

WILDLIFE will suffer during a drought as much or more than domestic livestock. The wildlife that shares your land is a valuable natural resource. To help wildlife:

- Include additional features at stock water developments which will allow small animals and birds safe access to water (these are usually not expensive and are easily installed)
- Fence ponds and springs and install collector pipes to deliver water to a tank or trough. This will save the water source from damage by livestock trampling, as well as allow access by small animals and birds to lush vegetation that grows close

Crop & Soil Actions to Stretch a Short Water Supply

The threat of water shortage means that many irrigators will have to make some difficult pre-planting decisions.

The acreage you normally plant and the type of crops planted may need to be adjusted. Some crops use more water than others. Some crops need water later in the growing season when water may no longer be available.

Experiments have proven that fertile soils make more efficient use of irrigation water. If you cut back on acreage, make certain you plant your most fertile acres. Concentrate available water on those acres rather than trying to stretch it over the entire farm.

Knowing soil type is important. It is your guide to rate and frequency of irrigation.

Here's a checklist of things to consider during this year's cropping season.

Know precisely how fast your soil can accept water and its total water-holding capacity. This will allow you to decide how much water to apply at a given time.

Know how much water is being delivered to the field. This will give an indication of how long to irrigate.

Determine the need for irrigation by shovel, auger, moisture meter, or the feel method.

WHEN IRRIGATION IS NEEDED, SOIL WILL FEEL AND ACT THIS WAY:

SOIL TEXTURE	A HANDFUL OF SOIL WILL:
Coarse	*Tend to stick together slightly, but will not form a ball.*
Medium	*Be crumbly, but will form a ball.*
Fine	*Be pliable, and will form a ball.*

If you plant fewer acres, don't neglect to plant drought tolerant cover crops on unplanted fields to protect from wind erosion.

Consider minimum tillage. Every trip over the field with equipment results in moisture loss. Leave some residue on the surface to reduce moisture loss.

Use chemicals rather than tillage to control water-using weeds.

Alfalfa and some cool-season grasses can survive with minimal water. But, the stand will suffer, particularly if grazed heavily.

Decide whether you will have a little water all season, or more in the spring and none later on. Vary crops accordingly. For instance, alfalfa, cool-season grasses, corn, sugar beets and cotton need water all season, but wheat, barley or rye need water early in the season.

All plants have critical water need times. Make sure you can provide your crops with water during their critical growth stages. Here are some examples of critical water need periods:

CROP	CRITICAL WATER NEED
Alfalfa	*Just after cutting for hay; at the start of flowering for seed production.*
Corn	*Early ear formation; from tasseling to silking stage.*
Potatoes	*Needs high soil moisture levels until potatoes are well-formed.*
Small Grains	*Boot to heading stage.*
Sorghum	*From boot to grain formation.*
Soybeans	*Flowering and fruiting stage.*
Sugarbeets	*First month after emergence.*
Tomatoes	*Flowering to fruiting stage.*

The Following Organizations Cooperate With The Soil Conservation Service In Snow Survey Work

STATE

California Cooperative Snow Surveys
California Department of Parks and Recreation
California Department of Water Resources
Colorado River Commission of Nevada
Idaho Cooperative Snow Surveys
Nevada Association of Conservation Districts
Nevada Department of Conservation & Natural Resources
- Division of Water Resources
- Nevada State Forester
- Division of Conservation Districts

Oregon Cooperative Snow Surveys
University of Nevada, Desert Research Institute
Utah Cooperative Snow Surveys

FEDERAL

Bureau of Reclamation
Forest Service
Geological Survey
Soil Conservation Service
U.S. District Court - Federal Water Master
NOAA, National Weather Service

PRIVATE

Nevada Irrigation District
Owyhee Project North Board of Control
Owyhee Project South Board of Control
Pacific Gas and Electric Company
Pershing County Water Conservation District
Sierra Pacific Power Company
Truckee - Carson Irrigation District
Walker River Irrigation District
Washoe County Water Conservancy District

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